

Title (en)
SOLAR CELL AND PHOTOVOLTAIC MODULE

Title (de)
SOLARZELLE UND PHOTOVOLTAISCHES MODUL

Title (fr)
CELLULE SOLAIRE ET MODULE PHOTOVOLTAÏQUE

Publication
EP 3979336 A1 20220406 (EN)

Application
EP 20208707 A 20201119

Priority
CN 202011069475 A 20200930

Abstract (en)
A solar cell and a photovoltaic module including the solar cell. The solar cell includes: a semiconductor substrate including a first surface and a second surface opposite to each other; a first dielectric layer located on the first surface; a first N+ doped layer located on a surface of the first dielectric layer; a first passivation layer located on a surface of the first N+ doped layer; a first electrode located on a surface of the first passivation layer; a second dielectric layer located on the second surface; a first P+ doped layer located on a surface of the second dielectric layer; a second passivation layer located on a surface of the first P+ doped layer; and a second electrode located on a surface of the second passivation layer. The present disclosure can alleviate a compromise restriction between lateral transmission and light absorption of a polycrystalline silicon film when a passivation contact structure is applied to the front side of the cell, increasing a short-circuit current of the cell while achieving a high open-circuit voltage.

IPC 8 full level
H01L 31/0745 (2012.01)

CPC (source: CN EP US)
H01L 31/02167 (2013.01 - CN US); **H01L 31/02168** (2013.01 - CN US); **H01L 31/022425** (2013.01 - CN); **H01L 31/02366** (2013.01 - CN); **H01L 31/0682** (2013.01 - US); **H01L 31/0684** (2013.01 - CN); **H01L 31/0745** (2013.01 - EP); **H01L 31/1868** (2013.01 - CN); **Y02E 10/546** (2013.01 - EP); **Y02E 10/547** (2013.01 - EP)

Citation (search report)

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Designated contracting state (EPC)
AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR

Designated extension state (EPC)
BA ME

DOCDB simple family (publication)
EP 3979336 A1 20220406; EP 3979336 B1 20230308; AU 2020273335 B1 20210909; CN 112201701 A 20210108; CN 112201701 B 20240503; EP 4191687 A1 20230607; JP 2022058069 A 20220411; JP 6975368 B1 20211201; US 11387376 B2 20220712; US 11588065 B2 20230221; US 12015095 B2 20240618; US 2022102568 A1 20220331; US 2022302334 A1 20220922; US 2023155047 A1 20230518

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EP 20208707 A 20201119; AU 2020273335 A 20201119; CN 202011069475 A 20200930; EP 22215306 A 20201119; JP 2020192430 A 20201119; US 202017104585 A 20201125; US 202217834409 A 20220607; US 202318098343 A 20230118